

163.1404USWO

ABSTRACT

Thermally formed thermoplastic articles can be protected from stress cracking in the presence of stress cracking promoting compounds by forming a shaped article comprising a thermoplastic and a liquid hydrocarbon oil composition. We have found that the liquid hydrocarbon oil composition prevents the stress cracking promoting materials from interacting with the polymeric structure of the stressed container to prevent or inhibit stress cracking in such materials. The methods and compositions of the invention are particularly useful in preventing stress cracking in polyethylene terephthalate beverage containers during bottling operations during which the bottle is contacted with aqueous and non-aqueous materials such as cleaners and lubricants that can interact with the polyester to cause stress cracking particularly in the container base. A process for lubricating a container, such as a beverage container, or a conveyor for containers, by applying to the container or conveyor, a thin continuous, substantially non-dripping layer of a liquid lubricant. The process provides many advantages compared to the use of a conventional dilute aqueous lubricant.

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

CORRECTED VERSION

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
22 February 2001 (22.02.2001)

PCT

(10) International Publication Number
WO 01/12759 A2

- (51) International Patent Classification⁷: **C10M**
- (21) International Application Number: PCT/US00/22190
- (22) International Filing Date: 14 August 2000 (14.08.2000)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
- | | | |
|------------|-------------------------------|----|
| 60/149,095 | 16 August 1999 (16.08.1999) | US |
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| 09/441,881 | 17 November 1999 (17.11.1999) | US |
| 09/595,835 | 16 June 2000 (16.06.2000) | US |
| 09/596,599 | 16 June 2000 (16.06.2000) | US |
| 09/596,697 | 16 June 2000 (16.06.2000) | US |
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- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
- Published:
— without international search report and to be republished upon receipt of that report
- (48) Date of publication of this corrected version:
2 August 2001
- (15) Information about Correction:
see PCT Gazette No. 31/2001 of 2 August 2001, Section II
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: CONVEYOR LUBRICANT, PASSIVATION OF A THERMOPLASTIC CONTAINER TO STRESS CRACKING, AND THERMOPLASTIC STRESS CRACK INHIBITOR

(57) Abstract: Thermally formed thermoplastic articles can be protected from stress cracking in the presence of stress cracking promoting compounds by forming a shaped article comprising a thermoplastic and a liquid hydrocarbon oil composition. We have found that the liquid hydrocarbon oil composition prevents the stress cracking promoting materials from interacting with the polymeric structure of the stressed container to prevent or inhibit stress cracking in such materials. The methods and compositions of the invention are particularly useful in preventing stress cracking in polyethylene terephthalate beverage containers during bottling operations during which the bottle is contacted with aqueous and non-aqueous materials such as cleaners and lubricants that can interact with the polyester to cause stress cracking particularly in the container base. A process for lubricating a container, such as a beverage container, or a conveyor for containers, by applying to the container or conveyor, a thin continuous, substantially non-dripping layer of a liquid lubricant. The process provides many advantages compared to the use of a conventional dilute aqueous lubricant.

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